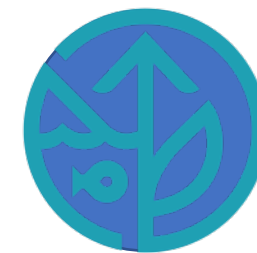




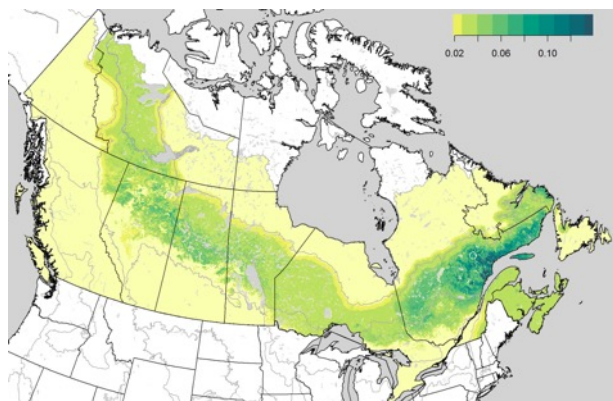
# Carlson - Building the species niche from individuals

Ben Carlson<sup>1,2</sup>, Yale University  
Martin Wikelski<sup>2,3</sup>, Walter Jetz<sup>1,2</sup>

<sup>1</sup>Yale University; <sup>2</sup>Max Planck - Yale Center for Biodiversity Movement and Global Change; <sup>3</sup>Max Planck Institute of Animal Behavior

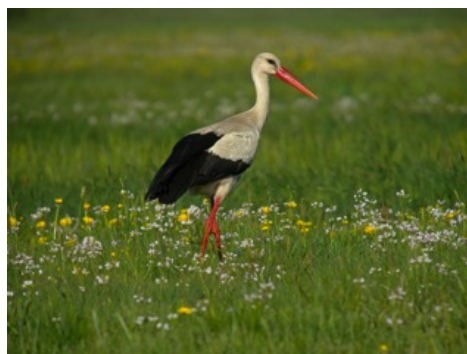


## How do the individuals of a species partition environmental niche space?

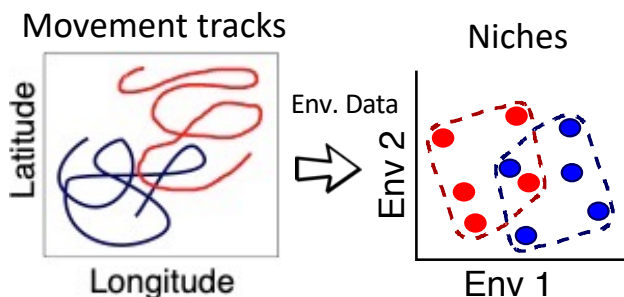


Cape May Warbler  
Boreal Avian Modelling Project, 2020

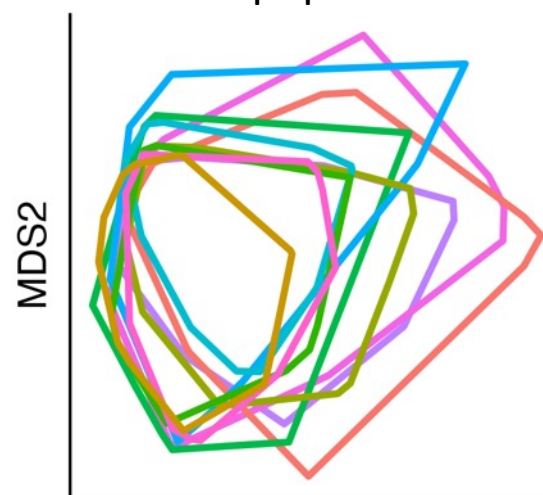
### White stork *Ciconia ciconia*



Construct individual niches  
using **tracking** and **remote sensing** data



### One population

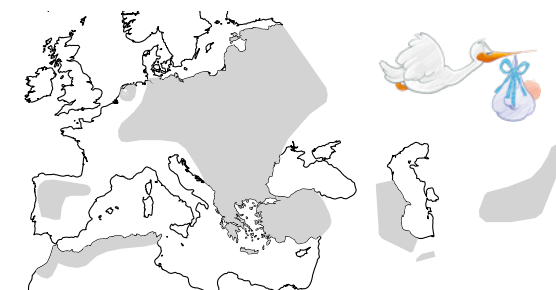


MDS1

Carlson et al. 2021 (Nat. Comm.)

Within populations, individual  
environmental niches have a  
**nested** structure

### Species range?



Grey - White stork breeding range

How do individual storks  
partition environmental  
space across their **range**?  
Visit my poster to find out!

Species distribution models  
estimate species average  
response. Does **individual**  
**variation** matter?

